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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,684	02/27/2002	Bo Shen	10016868-1	1394

7590 07/13/2006

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EXAMINER

SEFI, BEHROOZ M

ART UNIT PAPER NUMBER

2621

DATE MAILED: 07/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/085,684

Applicant(s)

SHEN ET AL.

Examiner

Behrooz Senfi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12, 14-19 and 21-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 14-19 and 21-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/2/2006 has been entered.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 25 - 29 rejected under 35 U.S.C. 101 because, the claimed invention is directed to non-statutory subject matter. Because, "the computer-usable medium" as cited in the claims is not realizable as "a computer-readable medium" *as required by the Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility (See OG Notices: 22 November 2005, Under subject heading, "Functional Descriptive Material")*. For example; a paper in a printer consider as a computer-usable medium.

Response to Amendment

4. Applicant's arguments filed 5/2/2006 have been fully considered but they are not persuasive.

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Response to remarks:

Applicant asserts (remarks, pages 12 – 14) that Uenoyama does not show or suggest counting the number of intra code macro-blocks in a subset of macro-blocks and compare the count with the threshold and base on that decisions are made.

Examiner respectfully disagrees; Uenoyama describes counting the number of macro-blocks in a group (subset, certain, ratio) of macro-blocks and then compare the count within the group with the threshold and based on the comparison the processing decisions are made, please see col. 11, lines 22 – 40 and fig. 24).

In view of the above claims 1-12,14-19 and 21-29 are still rejected for the same reason as stated in the last office action. The rejections are being restated.

Applicant amendment and explanations (remarks, page 11) overcomes the 35 U.S.C. 112, second paragraph rejection.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1 – 4, 7 – 11, 14, 16 – 19, 21 and 23 – 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brusewitz (US 2003/0021345) in view of Uenoyama et al (6,798,837).

Regarding claim 1, Brusewitz '345 teaches, reducing the resolution of video

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data (i.e. fig. 3), and accessing compressed input data for a frame of a plurality of frames, wherein the frame is at a first resolution and comprises a plurality of macro-blocks (i.e. fig. 3, 121, 132) and down sampling the compressed input data to generate compressed down-sampled data (i.e. fig. 3, down-scaling 132), and decoding the compressed down-sampled data at the second resolution, that is reduced relative to the first resolution (fig. 3, component 134).

Brusewitz '345 reference is silence in regards to, selecting a data processing function according to the number of the macro-blocks in the subset that are characterized as intra coded and comparison with the threshold, and plurality of macro-blocks comprises a subset of macro-blocks that is to be encoded as a single output macro-block. However, such features are well known and used in the prior art of video coding and decoding as evidenced by Uenoyama '837, which describes counting the number of macro-blocks in a group (subset, certain, ratio) of macro-blocks and then compare the count within the group with the threshold and based on the comparison the processing decisions are made, please see (col. 11, lines 22 – 40 and fig. 24).

Taking the combined teaching of Brusewitz and Uenoyama as a whole, it would have been obvious to one skilled in the art at the time of the invention was made to improve the Brusewitz decoding process by incorporating the coding mode selector, as taught by Uenoyama, to minimize the deterioration of image qualities.

Regarding claim 2, combination of Brusewitz and Uenoyama teaches, generating MV for the frame (Brusewitz, fig. 3, MV and Uenoyama, fig. 1, 206).

Regarding claim 3, combination of Brusewitz and Uenoyama teaches, generating MV for the frame (Brusewitz, fig. 3, MV). The combined teaching of Brusewitz and Uenoyama is silence in regards to averaging the MVs from the input data as claimed. However, Official Notice is taken to note that the above feature of averaging MVs is notoriously well known in motion compensated video compression to ensure no false detection of movement, thus improving the accuracy of motion detection.

Regarding claims 4, combination of Brusewitz and Uenoyama teaches, wherein the input data are compressed according to a discrete cosine transform-based compression scheme, wherein the input data comprise discrete cosine transform (DCT) coefficients (Brusewitz, fig. 3, 132).

Regarding claim 7, combination of Brusewitz and Uenoyama teaches, media data are selected from the group consisting of, video data, audio data... as claimed (Uenoyama, fig. 1, video signal).

Regarding claims 8 - 9, the limitations claimed have been analyzed and rejected with respect to claim 1.

Regarding claim 10, the scope of the claimed limitations are substantially similar to claim 1, therefore, the grounds for rejecting claim 1 also applies here. As for the additional limitation of motion compensation as claimed, please see (Uenoyama, col. 6, lines 60 – 69).

Regarding claims 11 and 14, the limitations as claimed have been analyzed and rejected with respect to claim 1.

Regarding claims 16 - 17, the limitations claimed have been analyzed and rejected with respect to claims 3 - 4.

Regarding claim 18, combination of Brusewitz and Uenoyama teaches, quantization parameter (Uenoyama, fig. 1, 208).

Regarding claim 19, the limitations claimed are the system corresponding to the methods of claim 1, which have been analyzed and rejected with respect to claim 1.

Regarding claim 21, combination of Brusewitz and Uenoyama teaches, motion vector generator coupled to the input buffer (Uenoyama, fig. 22).

Regarding claim 23, the limitations claimed have been analyzed and rejected with respect to claim 4.

Regarding claim 24, the limitations claimed have been analyzed and rejected with respect to claim 7.

7. Claims 5 – 6, 12, 15, 22, 25 - 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brusewitz (US 2003/0021345) and Uenoyama et al (6,798,837) further in view of Vetro et al (US 6,671,322).

Regarding claim 5, combination of Brusewitz and Uenoyama teaches, generating an output data stream at the second resolution (Brusewitz, fig. 4, abstract), and furthermore teaches a compression rate to limit the coding amount to a predetermined bit-rate (Uenoyama, col. 11, lines 26 – 35).

Combination of Brusewitz and Uenoyama reference is silence in regards to the details of determination of a bit rate for the output data stream using DCT coefficients from the input data as claimed. However, such features are well known and used in the

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prior art of video coding/decoding as evidenced by Vetro '322 (i.e. figs. 1 – 2, col. 2, lines 1 – 67, col. 3, lines 1 – 9).

Taking the combined teaching of Brusewitz and Uenoyama and Vetro as a whole, it would have been obvious to one skilled in the art at the time of the invention was made to improve the compression process by controlling the bit allocation as taught by Vetro to have the desired output bit-rate.

Regarding claim 6, the combined teaching of Brusewitz, Uenoyama and Vetro makes obvious the claimed input data are encoded according to a first compression scheme and the output data stream are encoded according to a second compression scheme (Uenoyama, col. 9, lines 38 – 44).

Regarding claim 12, combination of Brusewitz and Uenoyama teaches, decoding the compressed down-sampled data to generate decompressed down-sampled data (Brusewitz, fig. 4, 160). The combined teaching of Brusewitz and Uenoyama is silence in regards to, up-sampling the decompressed down-sampled data. However, such features are well known and used in the prior art of video coding/decoding as evidenced by Vetro '322 (i.e. fig. 11a, 1191).

Taking the combined teaching of Brusewitz and Uenoyama and Vetro as a whole, it would have been obvious to one skilled in the art at the time of the invention was made to incorporate an up-sampler in the modified system/method of Brusewitz and Uenoyama to up-sample the down-sampled image to generate the original image resolution as claimed.

Regarding claim 15, the limitations claimed have been analyzed and rejected with respect to claim 12.

Regarding claim 22, combination of Brusewitz and Uenoyama teaches, generating an output data stream at the second resolution (fig. 4, abstract of Brusewitz), and furthermore teaches quantization parameter (Uenoyama, fig. 17). The combined teaching of Brusewitz and Uenoyama is silence in regards to the details of determination of a bit rate. However, such features are well known and used in the prior art of video coding/decoding as evidenced by Vetro '322 (i.e. figs. 1 – 2, col. 2, lines 1 – 67, col. 3, lines 1 – 9).

Taking the combined teaching of Brusewitz and Uenoyama and Vetro as a whole, it would have been obvious to one skilled in the art at the time of the invention was made to improve the compression process by controlling the bit allocation as taught by Vetro to have the desired output bit-rate.

Regarding claim 25, the limitations claimed have been analyzed and rejected with respect to claims 8 and 12.

Regarding claims 26 - 28, combination of Brusewitz, Uenoyama and Vetro teaches motion vectors (Vetro, fig. 5, 560 and Uenoyama, fig. 8 and fig. 3 of Brusewitz), and averaging MV, in claim 27 (fig. 5, MV mapping of Vetro), and input data comprises DCT coefficients, in claim 28 (Brusewitz, fig. 3, 132).

Regarding claim 29, the limitations claimed have been analyzed and rejected with respect to claim 22.

Contact

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Behrooz Senfi** whose telephone number is **(571) 272-7339**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Mehrdad Dastouri** can be reached on **(571) 272-7418**.

Hand-delivered responses should be brought to Randolph Building, 401 Dulany Street, Alexandria, Va. 22314.

Any inquiry of a general nature or relative to the status of the application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is **(571) 272-6000**,

Or faxed to:

(571) 273-8300

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

B.M.S.

7/5/2006

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